

INITIAL STATEMENT OF REASONS AND PUBLIC REPORT DEPARTMENT OF PESTICIDE REGULATION

Title 3. California Code of Regulations Amend Section 6000 and Adopt Section 6960 Pertaining to Dormant Insecticide Contamination Prevention

This is the Initial Statement of Reasons required by Government Code section 11346.2 and the public report specified in section 6110 of Title 3, California Code of Regulations (3 CCR). Section 6110 meets the requirements of Title 14 CCR section 15252 and Public Resources Code section 21080.5 pertaining to certified state regulatory programs under the California Environmental Quality Act.

SUMMARY OF PROPOSED ACTION/PESTICIDE REGULATORY PROGRAM ACTIVITIES AFFECTED

The Department of Pesticide Regulation (DPR) proposes to amend section 6000, and adopt Subchapter 5, Surface Water, Article 1, Pesticide Contamination Prevention, section 6960 of 3 CCR. No established pesticide regulatory program activities will be impacted by the proposal; all enforcement activities engendered by the regulations will remain consistent with current enforcement activities.

In summary, the proposed action would restrict ground and aerial applications of dormant insecticides to areas 100 feet from any irrigation or drainage ditch, or canal, or any other body of water in which the presence of dormant insecticides could adversely impact any of the beneficial uses of the waters of the state specified in Water Code section 13050(f). Provisions for periods/circumstances under which dormant insecticides may or may not be applied are also included in the proposed regulations.

SPECIFIC PURPOSE AND FACTUAL BASIS

Pesticide applications to orchard crops during winter--when the trees are dormant--kills diseases and over-wintering arthropod pests (such as scales and mites). Treatment is most effective during this time of the year because there are no leaves on the trees to interfere with the pesticide application. While dormant season applications help to keep destructive pests under control throughout the growing season, the organophosphate (OP) pesticides used as dormant sprays (such as diazinon, methidathion, and chlorpyrifos) can cause problems when pesticide drift occurs during an application, or when rain washes residues into the Central Valley rivers and streams.

DPR scientists analyzed data from 22 surface water studies conducted between 1991 and 2001 by the Department, other government agencies, and private companies. DPR found that dormant spray insecticides were frequently detected in the watersheds of the Sacramento and San Joaquin Rivers, particularly in tributaries. The dormant spray

pesticide diazinon yielded the highest detections; these detections coincided with the flooding of orchards during winter rains. Small aquatic test invertebrates were killed when exposed for even short periods to the OP levels detected in the two watersheds.

Because state and federal laws prohibit the discharge of substances that make rivers toxic to aquatic life, the detections led the Central Valley Regional Water Quality Control Board to declare this problem a violation of its Basin Plan water quality standard for toxicity. In 1998, the state placed the Sacramento and San Joaquin Rivers and the associated Delta/Estuary on the Clean Water Act 303(d) list of impaired waterways, partly because of elevated OP levels originating from dormant spray runoff or drift. These listings require that specific measures be taken to eliminate harmful residues in the watersheds. To eliminate residues DPR must understand the specific agricultural production practices that contribute to the problem, how pesticides are moving into waterways, and alternative practices that will reduce pesticide runoff and drift to a level that eliminates toxicity in surface water.

Under a 1996 settlement agreement between the Sacramento Valley Toxics Campaign (SVTC) and the State and Central Valley Water Quality Control Boards, DPR agreed to resolve water quality problems caused by dormant sprays. Rather than immediately adopt mandatory restrictions, DPR launched a five-year plan during which DPR worked with growers to determine if voluntary practices could be developed that would effectively reduce the movement of dormant spray pesticides to surface waters.

During this effort, DPR worked with commodity groups, pesticide registrants, growers, agricultural advisers, county agricultural commissioners, Resource Conservation Districts, and others. The Department awarded \$1.2 million in grants to develop pest management practices that could reduce discharges of dormant sprays into surface water. Registrants also did outreach to raise grower awareness and suggest "best management practices." DPR also conducted or funded \$2.6 million in water monitoring studies between 1991 and 2001. (DPR agreed to periodically evaluate the success of these voluntary efforts toward achieving water quality compliance.)

Under the SVTC settlement agreement, DPR agreed to initiate regulatory measures if water quality improvements were not made. Monitoring performed between 1991 and 2001 revealed little progress in reducing aquatic toxicity and voluntary measures were deemed insufficient to resolve water quality problems. In fact, recent winter dormant season monitoring (1997-2000) revealed significant toxicity of aquatic test invertebrates in water samples taken from tributaries to both the Sacramento and San Joaquin Rivers.

Because voluntary measures have not solved water quality problems, DPR has now taken action to implement mandatory controls to reduce dormant spray residues to acceptable levels. The proposed regulation is described below.

Section 6000: Definitions This section contains proposed definitions for "dormant oil,"

"dormant insecticide," "hydrologically isolated site," and "sensitive aquatic site." These definitions are needed to clarify the proposed regulatory action in section 6960.

Section 6960: Dormant Insecticide Contamination Prevention The proposed adoption of section 6960 would restrict certain dormant spray applications. Proposed subsection (a) would allow dormant applications without restrictions if the operator of the property applies a dormant oil, spinosad, or biocontrol agent such as *Bacillus* species (substances not defined as dormant insecticides), if the application is made to a hydrologically isolated site, or if the runoff is diverted for 72 hours prior to release into a sensitive aquatic site. These requirements will reduce the risk of surface water contamination.

If conditions in subsection (a) cannot be met, proposed subsection (b) would restrict the use of dormant spray insecticide applications. Proposed subsection (b)(1) would require the operator of the property to be treated to obtain a written recommendation from a licensed pest control adviser prior to the application to ensure the necessity of dormant insecticide applications, and thus eliminate unproductive applications that may in turn impact surface water.

Proposed subsection (b)(2) would restrict ground and aerial applications of dormant insecticides to areas 100 feet from any irrigation or drainage ditch, canal, or any other body of water in which the presence of dormant insecticides could adversely impact any of the beneficial uses of the waters of the state specified in Water Code section 13050(f). The 100-foot buffer zone size was determined to provide adequate protection against surface water contamination. After investigating the literature, DPR determined that the large buffer zones needed to eliminate all surface water contamination would be impractical to implement. The 100-foot buffer zone size subsequently chosen--while substantially minimizing drift to surface water--will not eliminate all contamination potential, but will provide a reasonable reduction in problems caused by drift.

Additionally, proposed subsection (b)(3) would specify specific wind speeds in which dormant insecticides may be applied. Wind speed conditions were derived based upon DPR's data and research in the areas of pesticide drift and runoff and is typical language on most pesticide product labels.

Proposed subsection (b)(4) would allow aerial application only if soil conditions do not allow field entry, or approaching bloom conditions require aerial applications. This exemption is allowed because it is believed owner/operators need to be able to make aerial applications when pest pressure is high and ground applications are not feasible due to muddy field conditions.

Proposed subsection (b)(5) would prohibit all dormant insecticide applications under certain weather conditions. This is based upon DPR's data and research in the areas of pesticide drift and runoff.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION
(GOVERNMENT CODE SECTION 11346.2(b))

DPR has not identified any feasible alternatives to the proposed regulatory action that would lessen any adverse impacts, including any impacts on small businesses; however, as a first step in the regulation development process, the draft regulation proposal was informally routed past interested parties. Reviewers included commodity groups, pest control advisers, industry, environmental groups, county agricultural commissioners, and State and Regional Water Quality Control Boards. The alternative approaches and/or language suggested by interested parties during this informal review changed the draft proposal; some of the topics discussed are described below.

Hydrologically Isolated Application Sites

DPR responded to the request by commodity groups/owners/operators to allow dormant insecticide applications (minus application restrictions) when application sites are "hydrologically isolated." ("Hydrologically isolated" means the area to be treated does not produce runoff capable of entering any irrigation or drainage ditch, canal, or other body of water.)

Natural Resources Conservation Service (NRCS) Involvement

DPR initially proposed that owner/operators could develop a water quality management plan in conjunction with the federal NRCS in lieu of adhering to the 100-foot buffer zone requirement. This option was dropped after it was determined that NRCS was not suited to perform this role. NRCS is not a regulatory agency and, therefore, does not approve or oversee water quality management plans within a regulatory framework.

Waiver of Waste Discharge Requirement

The California Regional Water Quality Control Board (Central Valley Region) requested the addition of language that would require an owner/operator to have a waiver of waste discharge or otherwise meet waste discharge requirements. DPR did not incorporate this concept into the proposed regulations because the majority of the dormant insecticides are not restricted materials--thus county agricultural commissioners have no "trigger" under which to evaluate specific dormant insecticide applications. In addition, it is not clear whether DPR has the authority to require compliance with requirements established by another agency, operating under their own unique authorities and mandates, as a condition of pesticide use.

Exercise of Discretionary Power

Language that would enable DPR's Director to make a finding to exempt specific dormant insecticides from application restrictions was requested; however, DPR believes that the inclusion of such language would make the regulation too open-ended and thus leave the door open for the Director's decisions to be viewed as arbitrary. DPR believes that if specific dormant insecticide exemptions are deemed necessary in the

future, such adjustments should be made through the established regulation development/adoption process--a process that ensures the participation of all stakeholders.

72-Hour Hold Period

Several comments were made about the adequacy of the 72-hour water hold period. This hold period was chosen based upon orchard health issues. Owners/operators have told DPR that holding water on the orchard floor for periods greater than 72-hours causes damage to trees. This hold period allows some degradation of the active ingredients to occur, and this--coupled with the dilution that occurs as the water is slowly released into receiving waters--reduces the impact of orchard releases.

CONSULTATION WITH OTHER AGENCIES

DPR consulted with the State Water Resources Control Board (SWRCB) during the development of the proposed regulations as specified in the May 1997 Management Agency Agreement between DPR and the SWRCB. A draft of the proposed regulations was provided to SWRCB; comments were received, and the proposed regulations were amended in response to comments. Copies of this correspondence are in the rulemaking file.

IDENTIFICATION OF ANY SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECT THAT CAN REASONABLY BE EXPECTED TO OCCUR FROM IMPLEMENTING THE PROPOSAL

DPR's review of the proposed action showed that no significant adverse environmental effect to California's air, soil, water, plants, fish, or wildlife can reasonably be expected to occur from implementing the proposal. Therefore, no alternatives or mitigation measures are proposed to lessen any significant adverse effects on the environment.

EFFORTS TO AVOID UNNECESSARY DUPLICATION WITH FEDERAL REGULATIONS The proposed action does not duplicate or conflict with federal regulations because there are no regulations in the Code of Federal Regulations that address this issue.

DOCUMENTS RELIED UPON

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3. Bennett, K.P., C.E. Nordmark, J. Schuette, H. Feng, J. Hernandez and P. Lee. Occurrence of Aquatic Toxicity and Dormant-Spray Pesticide Detections in the San Joaquin River Watershed, Winter 1996-97. Department of Pesticide Regulation, Environmental Hazards Assessment Program Report EH 98-02. Sacramento, California. 1998.
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10. Maybank, J., K. Yoshida and R. Grover. Spray Drift from Agricultural Pesticide Applications. Published in the Journal of the Air Pollution Control Association, 28:10, 1009-1014. October 1978.
11. Menconi, M. and A. Paul. Hazard Assessment of the Insecticide Chlorpyrifos to Aquatic Organisms in the Sacramento-San Joaquin River System. California Department of Fish and Game Administrative Report No. 94-1. Sacramento, California. 1994.
12. Menconi, M. and C. Cox. Hazard Assessment of the Insecticide Diazinon to Aquatic Organisms in the Sacramento-San Joaquin River System. California Department of Fish and Game Administrative Report No. 94-2. Sacramento, California. 1994.
13. Nordmark, C.E., K.P. Bennett, H. Feng, J. Hernandez and P. Lee. Occurrence of Aquatic Toxicity and Dormant-Spray Pesticide Detections in the Sacramento River Watershed, Winter 1996-97. Department of Pesticide Regulation, Environmental Hazards Assessment Program Report EH 98-01. Sacramento, California. 1998.
14. Nordmark, C. Preliminary Results of Acute and Chronic Toxicity Testing of Surface Water Monitored in the Sacramento River Watershed, Winter 1998-99. Memorandum to Don Weaver, Environmental Hazards Assessment Program. Department of Pesticide Regulation, Sacramento, California. May 26, 1999.
15. Nordmark, C. Preliminary Results of Acute and Chronic Toxicity Testing of Surface Water Monitored in the Sacramento River Watershed, Winter 1997-98. Memorandum to Don Weaver, Environmental Hazards Assessment Program. Department of Pesticide Regulation, Sacramento, California. July 31, 1998.
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